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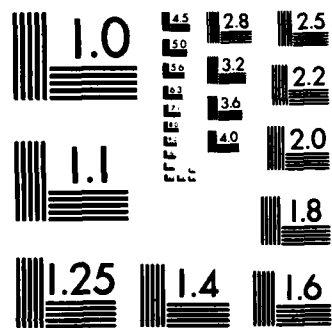
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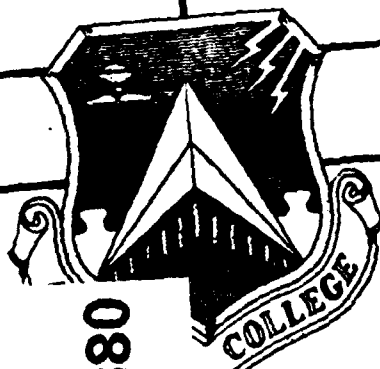
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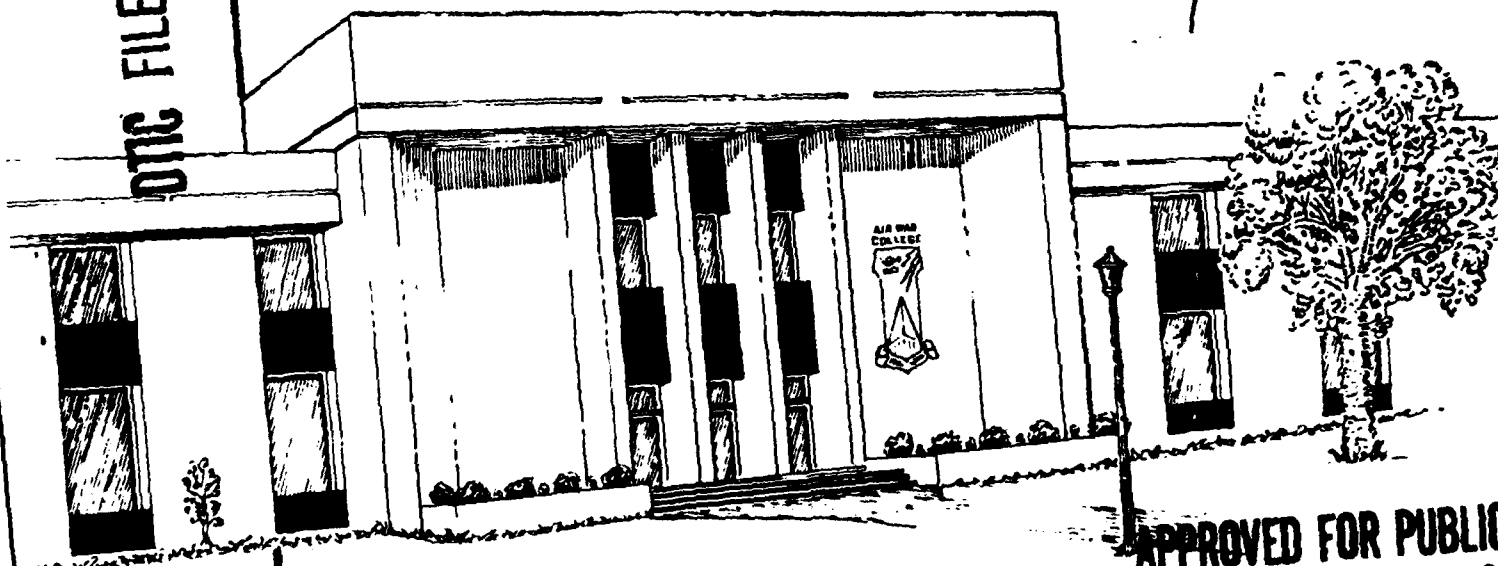
SOVIET FOREIGN MILITARY SALES:

WHY ARE THEY SO "CHEAP" .

By COLONEL DAVID OAKES

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SECURITY CLASSIFICATION OF THIS PAGE

AD A 157 380

## REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS										
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for Public Release; Distribution Unlimited										
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE												
4. PERFORMING ORGANIZATION REPORT NUMBER(S) <del>Air War College</del> AU-AWC-85-158		5. MONITORING ORGANIZATION REPORT NUMBER(S)										
6a. NAME OF PERFORMING ORGANIZATION Air War College	6b. OFFICE SYMBOL (If applicable) DFR	7a. NAME OF MONITORING ORGANIZATION										
6c. ADDRESS (City, State and ZIP Code) Maxwell AFB AL 36112-5522		7b. ADDRESS (City, State and ZIP Code)										
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER										
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PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT NO.									
11. TITLE (Include Security Classification) Soviet Foreign Military Sales: Why are they so "Cheap" (U)												
12. PERSONAL AUTHOR(S) Col David Oakes												
13a. TYPE OF REPORT Research	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Yr., Mo., Day) May 1985	15. PAGE COUNT 52									
16. SUPPLEMENTARY NOTATION												
17. COSATI CODES <table border="1"><tr><td>FIELD</td><td>GROUP</td><td>SUB. GR.</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>		FIELD	GROUP	SUB. GR.							18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB. GR.										
19. ABSTRACT (Continue on reverse if necessary and identify by block number) <p>A review of the history of the Soviet Foreign Military Sales (FMS) program and the Soviet economic system form the background for a discussion of the motivations behind the large FMS to the Third World. A hypothesis that the Soviets could not significantly reduce its FMS program even if its leadership desired to, is presented. It is then evaluated by discussing the forces on FMS both from an international and domestic perspective. These perspectives are further subdivided into political and economic types of forces. It is suggested that the hypothesis is true due to the strength of the economic motivations which tend to sustain military production and thus FMS at high levels.</p>												
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input checked="" type="checkbox"/> DTIC USERS <input type="checkbox"/>		21. ABSTRACT SECURITY CLASSIFICATION Unclassified										
22a. NAME OF RESPONSIBLE INDIVIDUAL Dr Robert Bogard		22b. TELEPHONE NUMBER (Include Area Code) (205) 293-7074	22c. OFFICE SYMBOL AWC/DFR									

AIR WAR COLLEGE  
AIR UNIVERSITY

SOVIET FOREIGN MILITARY SALES:  
WHY ARE THEY SO "CHEAP"

by

David Oakes  
Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY  
IN  
FULFILLMENT OF THE RESEARCH  
REQUIREMENT

Research Advisor: Mr. Clarence O. Huntley

MAXWELL AIR FORCE BASE, ALABAMA

May 1985

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Soviet Foreign Military Sales: Why are they so "cheap"?

AUTHOR: David Oakes, Colonel, USAF

A review of the history of the Soviet Foreign Military Sales (FMS) program and the Soviet economic system form the background for a discussion of the motivations behind the large FMS to the Third World. A hypothesis that the Soviets could not significantly reduce its FMS program even if its leadership desired to, is presented. It is then evaluated by discussing the forces on FMS both from an international and domestic perspective. These perspectives are further subdivided into political and economic types of forces. It is suggested that the hypothesis is true due to the strength of the economic motivations which tend to sustain military production and thus FMS at high levels.

## BIOGRAPHICAL SKETCH

Colonel David Oakes graduated with a B. S. in Engineering Sciences from the USAF Academy in 1966. He has had tours of duty in the Republic of Vietnam as an F-100 pilot and in Air Defense Command as an F-106 pilot and Weapons Instructor. He has served at Headquarters United States Air Force in the Office of Studies and Analysis and in Alaska as the commander of an aircraft control and warning squadron. He served at the Air Force Operational Test and Evaluation Center as a test director for air-to-air fire control and missile systems. He also served in United States Air Forces Europe as the Assistant Deputy for Operations at Bitburg Germany, flying F-15s and at the command's headquarters as Director of Operational Requirements. He holds awards of the Legion of Merit, Distinguished Flying Cross, and 15 Air Medals and has accumulated over 2000 hours of flight time in fighter aircraft. Colonel Oakes graduated from the Air Command and Staff College in 1976 and received an M. P. A. from Auburn University the same year. Colonel Oakes is a graduate of the Air War College, class of 1985.



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## CHAPTER I

### INTRODUCTION

The perhaps trite title of this essay, "Soviet Foreign Military Sales: Why Are They So 'Cheap'", is a question that most people could intuitively answer with rationale quite understandable and on the surface appearing quite correct. Arguments like, "They can do what they want for political reasons because they do not have to answer to their citizens" or "Who cares about the price of an item in a centrally controlled economy?" are easy to state and understand, but perhaps upon closer examination may not be totally correct or at least the whole story. They also do not completely explain the motivation for Soviet Foreign Military Sales (FMS) efforts either from a quantitative or price perspective.

The title contains the word "cheap" which is placed within quotation marks to connote more than the common meaning of the word. The word cheap most often conveys feelings of "low price", "inexpensive", "poor quality", etc. However, it can also relay a sense of availability. Something that is easily obtainable is often said to be "cheap." The relationship between availability and price perhaps developed from the capitalistic marketplace where

availability (supply) is inversely proportional to price (demand). It is the underlying reasons for easy availability or "cheapness" that is the motivation for this paper. It is not the exact amounts of FMS the Soviet Union provides to the various countries of the world that will be discussed, nor will the prices it charges be examined in detail, except to illustrate a point. What will be done instead, is to investigate the motivations for FMS with emphasis on the impact of the political and the economic forces, both internal and external to the Soviet Union. What is meant by "forces" is the influences or pressures that motivate the Soviets to have a large FMS program. Both political and economic influences will be addressed but the major effort will be applied to the economic area.

In order to set the stage for the investigation, several questions need to be postulated. On the international side of the coin one should ask, "What forces are there in the world that affect FMS and do they promote or inhibit?" On the domestic side, a similar question, "What forces are there in the Soviet economic system that promote or inhibit FMS?" Putting both sides together, "Which forces, international or domestic really dominate?" To distill these questions down a little into something more pointed and perhaps initially appearing radical, consider the following hypothesis:

The Soviet economy is such that it produces a surplus of military equipment which it must sell on the international market. This characteristic will tend to continue independent of the desires of the Politburo and despite changes in the political environment.

In other words, military surplus tends to be an irreversible byproduct of the Soviet economic system and FMS tends to be a necessary byproduct of that surplus. The hypothesis further states that even if the political environment changed to allow the Politburo to decrease emphasis of FMS, the system would resist the change. Right or wrong?

To investigate the issue it seems prudent to first briefly review the history of Soviet FMS to the extent possible at an unclassified level, followed by a more in-depth look at the Soviet economic system. In this area more time will be spent on how the economy is motivated than on the detailed structure. Once this review is accomplished, the forces on FMS from an international perspective will be discussed followed by the domestic forces. After evaluating these forces and their impacts, an attempt will be made to synthesize them into one overall view. That final process will be used to assess the validity of the proposed hypothesis.

## CHAPTER II

### HISTORY OF SOVIET FMS

#### Introduction

The extent and nature of Soviet FMS and aid programs has changed radically from the birth of the communist nation to today. As one may expect, the historical events, the size and health of the economy itself, and the philosophies of its different leaders dictated how much, if any, FMS and aid programs the Soviets would participate in. Their history with FMS can be broken down into three periods. The first, essentially the beginning of the USSR through the Korean War, was characterized by lack of FMS. The second period covers the beginning of the FMS program in the mid 1950's lasting through the early 1970's. This period shows rapid growth of their program. The final period covers the last 15 years and differs from the second period primarily because of the type of terms the Soviets contractually agreed to in their FMS programs.

#### Early Years Through Korean War

Immediately after the revolution, the Soviet leadership was totally preoccupied with consolidating its position, installing the communist system and rebuilding its nation. The country, prior to the revolution and World War

I, was primarily agrarian with very little industrialization compared to the West. Stalin consumed great amounts of natural resources including both physical and human resources to mold the nation into his liking. Stalin's push for heavy industry utilized practically all of the resources available.

The extent of a military-industrial complex in the Soviet Union prior to World War II can be seen in the unpreparedness of the Soviet Forces during the initial phase of Germany's attack. Stalin had concentrated on heavy industry (steel, coal, etc.) at the expense of all others starting with the first Five Year Plan in 1928. The Western democracies provided vast amounts of military aid to the Soviet Union to bolster the defense against Hitler. The West can only conjecture as to the outcome if they had not provided this aid. One of the few Soviets to acknowledge the extent and impact of the aid was Khrushchev himself in his memoirs. A few of his words were:

...we received military equipment, ships, and many supplies from the Americans, all of which greatly aided us in waging war. After Stalin's death, it seemed that all our artillery was mounted on American equipment....I wanted to stress how many of our cars and trucks we had received from the Americans. Just imagine how we would have advanced from Stalingrad to Berlin without them!  
(21:238,239)

Khrushchev also mentions the steel and aluminum provided for making guns and airplanes and the large amounts of food



shipped over. He said, "without Spam we wouldn't have been able to feed our army." (21:239)

The response the Soviets had to make to win World War II, the changes they had to make within their system, and the nature of the war production economy that was built laid the keel for one of the largest military-industrial complexes in the world. It set the mood of the country both from a patriotic point of view and economic system nature that lasts until today. This is a major characteristic that will be discussed in a more detail later.

Following World War II up through preparations for the Korean War, most of Soviet foreign and domestic attention was placed on rebuilding the Soviet Union proper and consolidation of the territories obtained and retaken as a result of the Great Patriotic War (World War II). The military industrial complex churned on with great emphasis to re-equip and modernize the Soviet Army which was now engulfed in communizing Eastern Europe.

On the eastern Soviet border the first signs of real military assistance appeared with the arming of North Korea and elements of the Red Chinese Army. As the world knows large amounts of equipment were transferred to the communist forces by the Soviet Union. Although this was true military assistance, it was not the same type of assistance that we are dealing with in the sense of this essay. This kind of

arms transfer was directly related to the conduct of a war and probably in the eyes of the Soviets was a major factor in winning or losing. It was not an optional move based upon what might or might not be. It was not really an FMS program.

Throughout this period, birth to the Korean War, Soviet military assistance, FMS and aid, was practically non-existent. The Soviets transferred arms to their client states in Europe and to the North Koreans and Red Chinese, however it can be argued that these were not optional deals, but extensions of the mental attitude of equipping its own forces, especially the forces in Eastern Europe. The nation did not have sufficient excess resources nor did it have a global foreign policy perspective. Stalin's death in 1953 set the stage for change. (26:178)

#### The Beginning (Mid 1950'S to Early 1970'S)

After Stalin's death, the change in leadership allowed a change in the nation's foreign policy. The Soviet policy changed its flavor from being primarily concerned with East-West and buffer state control to one of being more concerned with the world at large. When First Secretary Khrushchev achieved full power in 1955 by replacing Malenkov with Bulganin as Prime Minister, the world discovered that he was not shy in dealing with the rest of the world. At

that point in time the Soviet economy could support initiation of a foreign aid and military assistance program to its established and potential allies. As Bruce E. Arlinghaus states in his 1983 Arms for Africa: Military Assistance and Foreign Policy in the Developing World the Soviets have clear objectives for their program. He sees them as to: undermine Western influence, establish Soviet presence, extend the Soviet defensive perimeter, support its Third World clients and allies, preempt Chinese influence, support insurgencies, encourage domestic communist movements, and provide economic benefits to the Soviet economy. (2:49-52) Although this list was developed in 1983, it should be unarguable that some, if not all, of these ideas objectives had been established earlier. It is interesting to contrast that list with the generally stated U.S. goals for FMS of promoting U.S. foreign policy objectives and enhancing U.S. defense posture. (3: Sec 1-4) It can be seen why congressmen may argue about the legality, desirability and applicability of particular U.S. efforts due to the ambiguity of the law. The Soviet objectives being more specific, yet broader in coverage, tend to reduce arguments considerably.

During the first decade, the Soviets increased their aid and assistance program from 11 million dollars in 1954

to one billion dollars in 1958. In 1961 there was a sharp but temporary curtailment in aid due, in the opinion of Dr. Kenneth Whiting, to a slowing in the rate of economic growth in the Soviet Union and the resentment of the satellite countries in seeing so much aid going to non-bloc countries. Despite these factors, the slow down was only temporary and the program quickly picked up speed again. Over the period 1954 to 1964 the Soviets had expended 3.5 billion dollars in foreign aid. (26:179-180)

It is difficult to determine where these funds were spent and what forms it was transferred in, however, some known trends and examples can be cited as possibly representing the majority of the military aid agreements and the kind of terms agreed to by the parties. A.J. Pierre in his article "Arms Sales: The New Diplomacy" summarized the types of agreements the Soviets used in transferring aid.

In speaking of arms trade he stated:

For a long time arms were delivered either free or at low cost with very favorable conditions, including long-term credits of eight to 12 years, and minimal interest rates of 2.5 percent often repayable in soft, local currency which was then used for the purchase of goods from the weapons-receiving country. (19:272)

This contrasts to the prevalent U.S. interest rate charges of 4-5 percent and very little commitment to bi-lateral trade. (5:157) The desirability of these agreements from a developing country's point of view should be obvious. The

low interest rates, quality of equipment, lack of restrictions on use, minimum delivery time, etc., all made Soviet aid desirable. However, it was the repayment terms, the repayment in local currency, that also made their agreements so desirable. The Soviet Union's centralized economy could absorb raw materials and consumer goods easily so when the developing country was given the opportunity to repay directly in trade or repay in credits to be used within its own local economy rather than in negotiable currency or gold, it appeared advantageous. On the surface these agreements can seem inexpensive but they can become a heavy burden for the developing countries. As an example, the loans to Egypt for significant amounts of arms in the early 1950's was typical. In this "arms for cotton deal" the Egyptians repaid the Soviet Union in raw cotton. The terms were such that Egypt was shipping the major portion of its cotton crop to the Soviet Union, an amount that in 1956 alone represented 10 percent of its total trade with the West. Any nation cutting its trade income by 10 percent a year must feel the impact.

A similar arrangement was made with India, although in this case it was for heavy industrial aid in the form of building a steel mill. As Joseph Berliner reports:

Payments for the Soviet contribution is financed under a credit to be repaid in twelve equal annual installments with an interest charge of 2 1/2% on the unpaid

balance...to be used by the USSR for the purchase of commodities in India. (5:32)

Berliner goes on to describe why this type of agreement is advantageous to the receiving country by citing an example of the difference between Burma repaying a U.S. and a Soviet Union loan. The U.S. tends to ask for repayment in hard (negotiable) currency which means that Burma's abundant rice resources must be sold on the open market for either dollars or gold then payment made to the U.S. When repaying the Soviets, the Soviets take the rice itself as repayment. (5:16)

Throughout this period, the Soviet FMS program steadily increased in size using low-interest-repayable in traditional exports type terms. (17:18) Their program started out well and continued well to where even early in this period (1958) the USSR alone accounted for approximately 75 percent of all credits extended to under developed countries. (5:34) Even with such early success, the world economy continued to change over time and the Soviet FMS program adjusted along with it.

#### The Last Fifteen Years (Early 1970's to 1980's)

The economies of the world continued to grow as well as diversify to great extent. Technological innovations had accelerated the growth of Western economies relative to the Soviet/Eastern-Bloc countries. Raw materials, although

still needed, were not as critical to the Soviet Union as was Western technological innovations and equipment. The Soviet system needed products from countries other than those it was dealing with in arms trade. The reasons for this change in increased needs for technology and food, will be discussed in more detail in the next chapter. What the Soviets had to do to satisfy this need was to modify the approach they had taken for repayment terms of their loans. When possible, they replaced repayment in local currency credit terms with repayment in hard currency terms. (17:18) This hard currency income then could be used in trade with a third country to purchase needed items. These new terms were most used with countries that had the hard currency assets. The Middle-east countries, due to large increases in petro-dollar income, have been the most noticeable. The increase in hard currency requirements has even stimulated the transfer of sophisticated and expensive equipment to the Third World countries before it was available to Eastern European Warsaw Pact members. Examples are the MIG-27 to Libya and equipment of similar technology to Algeria and Iraq. (9:47) Despite this change in agreement terms, the Soviet Union remains flexible in dealing with the Third World. It has not forgotten its stated objective. As A.J. Pierre put it:

In recent years, however, arms sales have ben sold to

oil-rich countries such as Iraq, Libya, and Algeria, thereby greatly assisting Moscow's trade balance. Thus, lucrative arms sales to the Third World are now helping Moscow finance its purchases of Western technology and food. Nevertheless, the Soviet Union remains prepared to make an economically less attractive deal if it suits its political purposes. For example, the terms of the \$1.6 billion sale to India in 1980 are extremely generous, providing for repayment over 17 years at only 2.5 percent interest. (19:272)

The pace of arms trade with the Third World has increased since 1970 from both the Soviet Union and the U.S. as well as the other nations in the West. It has increased to the point that over 1970-1980, 75 percent of trade in the Third World is arms related and two thirds of it comes from the U.S. and USSR. (17:3-4) Not only has the amount of Soviet equipment increased but the value has also increased. According to the DIA the reasons cited are: the already mentioned oil wealth, increase in sophistication of equipment (MIG-23, MIG-25, IL-76-Aircraft; MI-24 helicopters; surface to air missiles (SAMS); and T-62 and T-72 tanks) and higher Soviet prices. (1:75) Table 1 shows the Congressional Research Service estimates of the arms deliveries to the Third World from 1976 to 1983. These figures indicate that the West still sells more abroad than the USSR practically every year. Table 2 from NATO sources which have lower estimates shows how the sales for 1982 were divided up among key nations. As already discussed most of the sales were to oil-rich nations.



<u>YEAR</u>	<u>US</u>	<u>WESTERN EUROPE</u>	<u>USSR</u>
1976	\$8.2 Billion	\$4.0 Billion	\$6.1 Billion
1977	9.8	4.7	8.3
1978	10.1	6.6	11.0
1979	9.2	5.4	15.6
1980	6.4	7.5	12.2
1981	6.8	9.2	9.9
1982	7.9	6.0	10.4
1983	9.7	5.3	7.8

Table 1. Sellers to Third World: Arms Deliveries to Third World Nations (in 1983 dollars) (16:59)

<u>COUNTRY</u>	<u>\$MIL (US)</u>	<u>PERCENT OF TOTAL</u>
Syria	1,756	25.6
Iraq	1,247	18.2
Libya	707	10.3
India	572	8.3
Algeria	432	6.3
Cuba	410	6.0
Others	1,735	25.3
Total	6,859	100.0

Table 2. Soviet Arms Deliveries-1982 (24:147-148)

James L. Buckley, Under Secretary of State for Security Assistance, Science and Technology, presented data in the Department of State Bulletin that contradicts these figures both in quantities and relative amounts, US to USSR. These figures are presented here for completeness, however, the accuracy of either will not be argued. They are merely included to demonstrate the increasingly large quantities and high dollar values of the Soviet program.

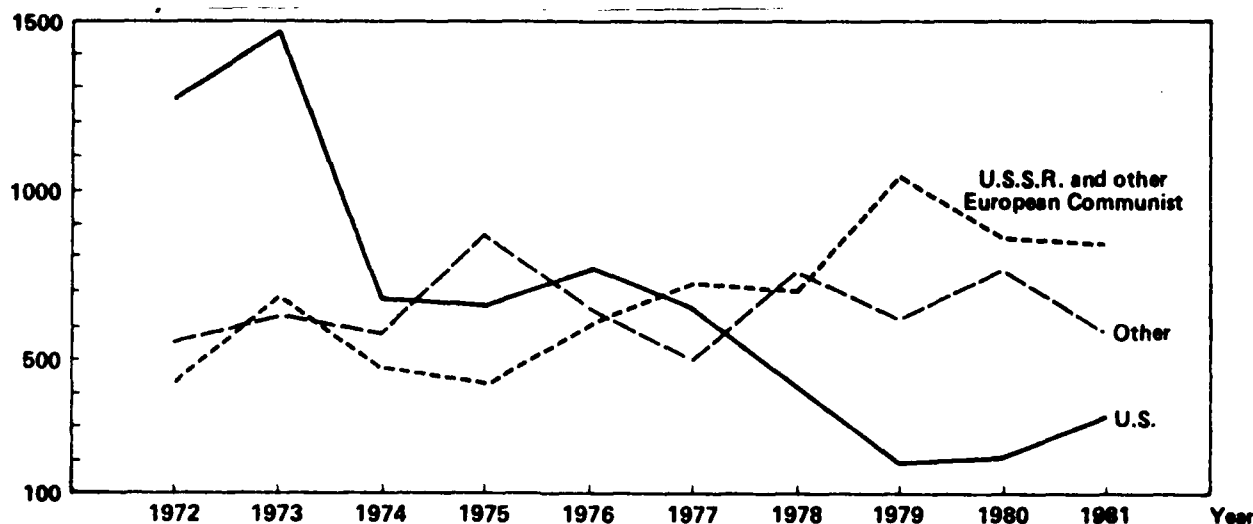


Figure 1. Military Aircraft Delivered (7:53)

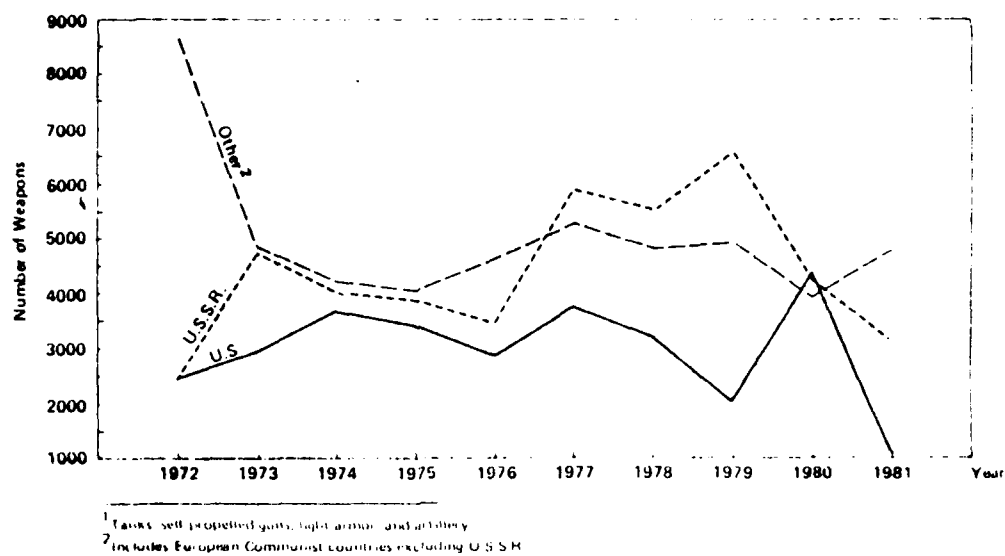


Figure 2. Major Ground Weapons Delivered (7:54)

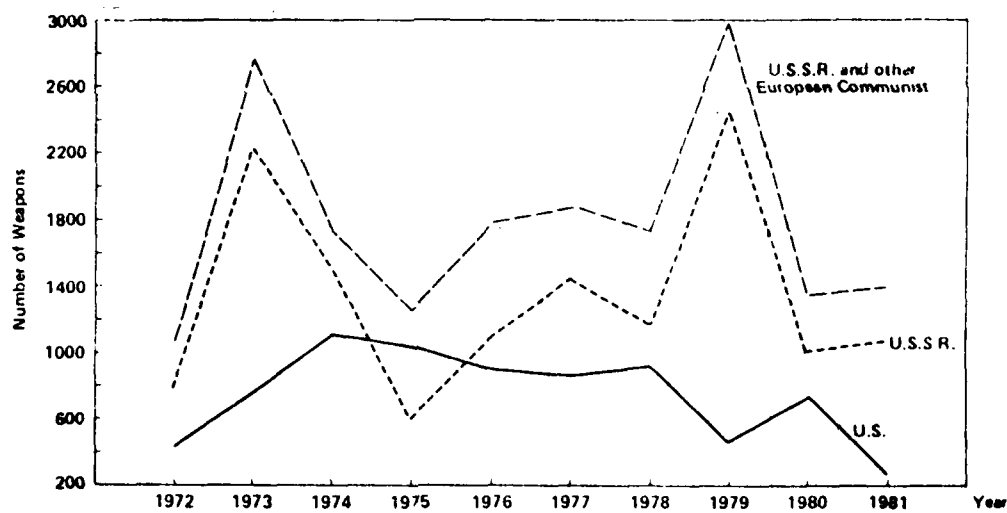


Figure 3. Tanks and Self-Propelled Guns Delivered (7:54)

### Summary

The Soviet FMS program has changed dramatically in size from its start in the early 1950's. It has increased from minimal amounts in 1954 with payment in local resources to a program of billions of dollars in foreign trade bringing in large hard currency earnings to assist the Soviet Union in the world market place. NATO estimates that in 1982, 40 percent of all Soviet and Third World trade was in arms. (24:147) The USSR continues to deal heavily in arms trade and minimally in economic assistance. This contrasts to the US which deals more in economic aid than arms. Over the 1976 to 1980 period it has been reported that the Soviet economic aid versus arms assistance figures were \$7.7 Billion in economic aid to \$32.9 Billion in arms. The US figures were \$26.5 Billion in economic aid compared to \$22.8 Billion in arms. (27:32) This was a four to one arms over economic ratio for the Soviets while the US was less than one to one.

The Soviet Union has taken its large production capacity developed to support its force modernization program and used it to achieve advantages over the West. It has maintained production lines open on equipment that it no longer needs and produced variations of new equipment especially for export. (7:57) It has done so to achieve its stated goals for FMS but also to dispose of excesses while

earning much needed hard currency. Their economic system continues to produce the arms and their FMS program continues to grow yearly with increased sophistication.

## CHAPTER III

### SOVIET ECONOMIC SYSTEM

#### Introduction

The centralized Soviet economic system envisioned by Karl Marx, introduced in the Soviet Union by Lenin and given shape and purpose by Stalin, in theory is supposed to maximize efficiency by controlling the allocation of resources in support of the state. It is supposed to contain workers who are dedicated to the improvement of the state through hard work, patriotic sacrifice, and suppression of individual goals. Unfortunately the system does not achieve its idealistic goals nor do its workers and managers exude all of the traits desired. The system of centralized planning, decentralized execution and motivational tools of salary and bonuses have combined to create a system that works but has significant limitations. In order to understand these limitations it will be necessary to briefly review the formal economic system followed by a look at the motivational tools used and their effects. The limitations of the overall system will be discussed in the process of reviewing the performance of their economy in general terms. Throughout this process the industrial sector will be the focus of the effort due to its direct applicability to production of arms. Once

accomplished, existing trends can be used to extrapolate into the future.

### Formal System

The formal economic system is a centrally planned and decentrally executed similar to a military organization. It starts out at the very top of the Soviet government with macro-economic decisions at the Politburo level. The basis for all decisions in each year's annual plan is the Five-Year Plan in which broad production goals and resource allocation assignments are set. The Politburo guidance is sent to the Council of Ministers who establish each year's preliminary annual plan. The ministries then bargain with each other to insure that their targets are attainable.

(25:54) This negotiation step is critical for many reasons but the two most prominent are first that the goals must be obtainable since one ministry's output is another ministry's input. Failure on one part of the system tends to ripple through the system affecting other parts. Secondly, the ministries do not want to set difficult goals for fear of failing to achieve them and suffering the consequences. This tendency will be discussed in more detail later.

The ministers then send down the preliminary plans and goals to the enterprise level where the managers repeat the process and bargain for targets that they are sure they

can make. (25:54) The managers bargain for the same reasons as the other layers did but perhaps with more emphasis since they are the ones who will actually have to execute the plan. Satisfied, as much as possible, with the planning and goals, the revised annual plan is then approved by the Council of Ministers and becomes the plan for the year. It becomes the standard which performance of the economy and its workers is measure against.

As was mentioned this centralized plan is executed by decentralized management. It is decentralized down to the enterprise (a factory for example) where the manager maintains control and responsibility for conduct of the business. From there down to the individual worker it is centralized in nature with directives flowing down through channels. (25:54) Even though the manager has detailed rules and regulations to live by he has considerable autonomy in carrying them out.

The system provides for controls through several channels back to the ministry. In addition to the reports funneled directly back to the Ministries, there is a Ministry of State Control which receives the same reports. Primarily concerned with major policy issues, with insufficient staff and being usually located far away from the enterprise, this control agency has limited effects on the enterprises. It apparently is tied up in dealing with



major failures in the system and does not have time to micro-manage them all. Joseph Berliner concludes that the "...best way to avoid attracting the Ministry's' searching attention is to report regular plan fulfillment." (4:323)

Another control system is the Communist Party itself. With members throughout the system, they theoretically are there to be the patriotic watchdog. In practice, however, they have dual masters. On the one hand, they are party members who are expected to maintain strict loyalty to the goals of the party which has always encouraged honesty, hard work and dedication. On the other hand, they are actually a part of the enterprise. If the enterprise fails, so do they. Berliner puts the dichotomy this way when discussing resource allocation within a ministry:

The Local Party committee may resist attempts by higher organs to deprive enterprises within its jurisdiction of labor to other resources which are or may be necessary for plan fulfillment, and the ministry often strives to manipulate the planning process in such a way as to obtain a lower plan. (4:323)

The formal system thus centralizes decision making at the top levels with the annual plan and then expects the enterprise manager to execute it at his level. The control systems are there but are of limited impact in insuring target attainment. What appears to be the catalyst is the incentive system established to encourage output.

### Incentives

The Soviet economy works under the same principles of money as do most countries. Despite communist rhetoric it is still money that motivate the factory managers. The formal economic system provides for basic salaries for all levels of employees. The salary is fixed independent of output as it is for many employees in businesses in the West. Since the individual enterprise managers do not "own" the business, and can not share in its profits as they do in the capitalistic system, they could not be motivated to work beyond minimum satisfactory levels with salaries alone. Instead the Soviet system has established a set of premiums or bonuses payable for various levels of output over and above the annual plan fulfillment.

The basic salary motivates the shop worker to a fixed level of effort but has limited effect in anything beyond. To the average worker, the lack of quality consumer goods and the restrictions on owning private property limit the use of extra income even if it were available to him. The individual worker in the shop has little concern for the annual plan fulfillment as long as he keeps his job. The factory manager on the other hand has more desire for higher income since his privileged status provides him access to benefits such as automobiles, better living quarters, etc.

Premiums are paid for achieving monthly, quarterly and annual goals for things like fulfillment of basic plan, economy of materials, economy of labor, economy of wages, and economy of administrative-business expenditures.

(4:26,28) In addition, the system has established a separate "Enterprise Fund" that can be used for additional bonuses, working capital and small unit purchases for the enterprise, and housing, recreational facilities and children's summer camps for the workers. The amount of funds available to the enterprise depended upon output similar to the basic premium system. Although the Enterprise Fund system was modified under the 1965 Reform, the system basically operates the same today. (1:406,407)

Premium rates vary from industry to industry but on the average have made up a substantial portion of income. Berliner cites the range of premium payments possible depending on the industry as 20-100 percent of salary for successfully fulfilling the plan with an additional 2-4 percent for each 1 percent of over-fulfillment. The premiums actually paid out in 1947 indicate prioritization of industrial sectors through financial motivation. The iron and steel industry average premium was 51.4 percent while the food industry received only 21 percent. (4:29-31) During the 1950's premiums were lowered in the name of income equality, however, the change did not last and with

the 1965 Reform have climbed back to 34.5 percent by 1970.  
(6:478)

The Soviet system and enterprise managers are driven by the premium system and do not have to feel guilty about it because many official spokesman "extol the virtues of 'material self-interest' as proper incentive under socialism". (4:49) The system of centralized planning and incentives have fostered some unique management attitudes and techniques that have an impact the performance of the Soviet economy. It is appropriate to discuss how these factors affect management of Soviet Industry.

#### Management Philosophy

The philosophy of Soviet peasant life has often been noted as one of "live peacefully" or "do what one has to do to get by." The manager of an enterprise is no different from that. Today he does everything in his power to have targets set that he can reach, insure that he will have the resources necessary to meet his targets and if necessary doctor the books slightly to meet his quotas. Joseph Berliner uses three terms to classify what one might call non-standard practices: *blat*, a cross between bribery and favoritism; *simulation*, shifty bookkeeping; and *safety factor*, building in a resources or target pad whenever you can. The *safety factor* is manifested in

the manager's efforts in having targets set below what he knows he can make, hoarding raw materials and labor for emergencies in case the system fails to supply him properly, and exaggerating expected costs to give him a pad for profit calculations. *Simulation* is akin to covering up some shady book keeping. Examples are: the concealment of excess production in one reporting period in order to carry it over as insurance for the next period, carefully choosing which parts of the plan to fulfill to optimize premium payments, and reducing quality in order to increase quantities to achieve higher premium potentials. *Blat* is simply a managers use of his influence in areas to do something for someone who has helped him. A manager's influence can be used to repay others for things like help in keeping targets low or insuring that a factory's needed raw materials are delivered before others get theirs, etc. This "you scratch my back and I'll scratch yours" philosophy permeates the entire nation. The centralized system inhibits so much activity that workarounds oiled with a timely gift of a bottle of vodka or priority on a housing list are standard practice. A *Tolkach*, or expeditor, is often used to act on behalf of an enterprise out in the field to insure that inputs are unimpeded. (25:55,56) These "illegal" techniques have been developed due to the managers desire to succeed.

Being successful in a Soviet manager's eyes occurs

in two ways. Berliner first says he can achieve personal satisfaction from emotions associated with "pursuing a managerial career, prestige, a high standard of living, power and authority, patriotism, the urge to create and organize." He adds the second way by continuing with, "Thus, while the salary is a measure of the importance of the manager's enterprise, the size of the premium is a measure of the skill with which he is operating his enterprise." (4:321,322) A manager wants to succeed by achieving his goals in such a way as to maximize his premium payments. Dr. J. Zielinski sums it up nicely in his study of Polish Industry, "Socialist managers are essentially bonus maximizers, and their behavior can be explained to a degree comparable to a profit-maximizing assumption of a market economy, in terms of this goal." (28:311)

#### Impact of Management and the System of the Economy

What are the effects of these management attitudes and the system characteristics on the Soviet economy. Do they cause it to grow? to be flexible? to be conducive to change or innovation? Does the system work? To answer the first question, history proves that it does work and the economy does grow. The Soviet economy grew extremely well up through the 1950's with GNP increases annually of 6 to 10 percent. It has slowed since 1977 to growth rates of less

than 3 percent annually. (26:180) Problems in the agricultural sector have been historical but will not be discussed here since the reasons although related are somewhat different than those for the industrial sector. The system of centralized planning does not handle flexibility well nor do the motivation of the players in the decision making process support change or innovation. Let us take the time to discuss the reasons behind these characteristics.

First the growth rate. During the 1930's through the 1960's, the Soviet Union had relatively inexpensive resources available to them. It was a simple matter to allocate new resources to increase capacity in any sector that the Soviet elite desired. However, the inexpensive resources are running out. It still has significant amounts of resources available but they are becoming more and more expensive to develop. Economic growth in a physical sense has slowed although it still continues to grow. Management has attempted to increase productivity and efficiency through rhetoric and the use of the incentive system as aids in achieving annual plan targets. Unfortunately they have achieved limited success.

If the system were flexible, perhaps it could adjust to changes in resource availability quickly and efficiently allocate those resources that it could get. However, a

system of centralized planning does not lend to flexibility. Five-year plans with numerous levels of bureaucratic bargaining and coordination of the annual plans do not permit flexibility. Theoretically under the system of centralized control it should be easily flexible since it takes only a few elite at the top to dictate a change in direction. In reality, the system built has great inertia from the size of the bureaucracy on the one hand to the "inertia" of the enterprise manager on the other hand.

This managerial "inertia", produced by the incentive system tends to inhibit change, inhibit incorporating major innovations, and inhibit major increases in efficiency. Why? Essentially it becomes "too hard to do" and it puts the status quo and bonus payments at risk. As was already discussed, the enterprise manager works very hard to keep his targets low and his safety factor up to optimize his chances at premiums. Small innovations may be acceptable because they do not disrupt the enterprise, however, significant changes are rarely supported by existing management. Berliner used the words of a prominent Soviet physicist, Professor Kapitsa, in describing the process of transferring technological knowledge from the laboratory into production. The Russians use the word *Vnedreniye* which "carries the meaning in Russian that forward motion encounters resistance in the surrounding medium." (6:3)



Given a stable enterprise that is doing well, what advantage can be obtained from significant innovation such as upgrading production equipment to increase efficiency. Although some are possible in the long run there is significant costs in the near term in the form of lost premiums caused by down time, start up difficulties and changes in supply sources and availability. The unreliability of supply is quoted as the most significant inhibitor to innovation. The greater the extent of innovation, the greater the extent of anticipated supply problems and the greater the extent of managerial resistance to the innovation. (6:73) These observations are not only from Western students of the Soviet economy but also come from within the system itself. The following excerpt from an article in IZVESTIYA written by a Mr. Z. Sirotkin, Chief Design Engineer of the Byelorussian Motor Vehicle Plant describes the problem well:

Unfortunately the "mechanism" of the Economic Reform has proved insufficiently effective when applied to the question of putting new equipment into production. After all, for production workers, the manufacture of new machines means, first of all, new concerns and difficulties. The work rhythm is disrupted, and many new problems appear. Under the existing situation, this causes the performance indicators to decline and the enterprise incentive funds grow smaller. It is for this reason that some plant executives brush aside innovations proposed by science...This is especially true if the plant has achieved a stable work rhythm and high-quality output and has all the benefits the Economic Reform provides; as for material incentives to induce changes, there are none. (22:1)

These characteristics are causing great difficulties in motivating rapid growth in the industrial sector, at least on the non-military industries.

#### Military Industry

Contrary to the rest of the economy all signs indicate that the military industries continue to grow at a rapid pace. Innovation seems to be easily accommodated as evidenced by the numerous new models of aircraft, naval vessels, air defense missile systems, and mobile ground equipment that have been produced by the Soviets in the last ten years.

The military industries started under Stalin and rapidly rebuilt following World War II can be thought of as a separate economy or bureaucracy within a bureaucracy. Perhaps initially motivated by the historic Soviet paranoia for security, this "natural patriotism" could have provided the simple arguments needed to get it started. As designed by the Soviets, the military is almost a separate society within a society. The military officers most often perform life time service and receive higher pay and benefits than their civilian counterparts. There is no drift from the military into the industrial sector at resignation or retirement as there is in the U.S. (21:15) The primary

reason is that the Soviet military already runs the state owned factories. They are already in control of the industries, making key decisions and conducting 100 percent of the quality control tests. The military is already in a good position and has no desire to change it.

This military--industrial complex is strong and has shown that it is insensitive to political and economic conditions surrounding it. Myron Rush in his article "Guns Over Growth in Soviet Policy" shows that defense spending continued to "increase at about the same rate despite the worsening economic situation from 1975 to 1981" and despite SALT I and the Helsinki Accords. As the Soviet national income growth has been slowed by 50 percent since 1960, their defense spending has still continued to grow at nearly a fixed rate. (20:174) The continued growth in defense spending has come primarily from decreasing investment capital on the consumer side. In the 1920's, 60 percent of industrial production went towards consumer goods, but in the 1970's only 30 percent went to consumer goods. (21:9)

This sector continues to grow due to more than just increasing the amount of resources allocated to it. If it were only that, we would see the Soviet system producing just more of the same types of equipment. Management techniques and motivations are different. The push for innovation is stronger since the Soviet war fighting

equipment must be capable of competing with Western technological advances. The Soviets must strive to continually upgrade systems and build new ones to answer the increased threat from the West. The concept of competition itself is used within the industry (for example: between aircraft companies, Mikoyan and Sukhoy) to push technology development and innovation. (6:508) The element of competition does not exist in other industries nor do they enjoy the "guaranteed" supply priority of the military.

The military-industrial complex is a separate part of the economy with its own rules, priorities, and motivations. Perhaps a manager in this sector "has it all." Despite increased pressures due to the weight of his responsibilities, he is not inhibited from innovating, has supply priority and has a guaranteed customer. There is almost no motivation to change it.

#### Future Trends.

There is nothing in the cards in this author's opinion that will force the Soviets to make major changes in their system. There are pressures to increase growth, however the resource limitations coupled with the national defense priorities have limited significant growth to the military-industrial complex. Limited growth will continue in the non-military industries without major changes in

national priorities or their system. Independent of the priority change, the non-military industrial sector will continue to be inefficient due to the incentive system as it interacts with the inflexible bureaucratic centralized planning system.

## CHAPTER IV

### THE FORCES ON FMS

#### Introduction

There are numerous forces or pressures from international and domestic perspectives, both for and against FMS programs. They range from purely political to purely economic. The primary purpose of this chapter is to discuss these pressures and assess their magnitude. The political forces will be mentioned only briefly to complement the primary emphasis on the economic forces. Throughout this discussion, the reader should keep in mind the hypothesis mentioned in Chapter I and attempt to develop an appreciation for the actual powers or lack of powers, that the Soviet elite have in molding their FMS Program. There will be an attempt to evaluate the strength of the economic forces by discussing the ease or difficulty the Soviet system would have in significantly curtailing their FMS program.

#### International Forces--Political

The first force to be discussed, the international political force, will be dealt with quickly. In Chapter II it was pointed out that the Soviets have clear objectives. Practically all of the objectives mentioned in that

discussion were political in nature, such as undermining Western influence, establishing Soviet presence, etc. It is obvious that the Soviet elite have to continually weigh the pros and cons of FMS in support of the objectives. They are free to mentally substitute other elements of political or economic power for elements of the FMS program. However, in assessing the effectiveness of non-FMS elements, one has to weigh the availability of these elements and the receiver's attitude toward them. Returning to the objectives, it is apparent that the objectives of supporting insurgencies and their Third World clients and allies require military equipment. (2:49-52) The other alternatives of increased economic aid or political support in the form of alliances and agreements are more risky to the Soviets. Increased economic aid is not desirable since it would increase the burden on the Soviet economy in areas that it can least afford. If the Soviets did provide economic aid and if the client nation did require arms, it could be argued that the aid would in fact end up being transferred to a third nation for the arms purchases. Economic aid in a sense would be funneled to the West and the West would benefit economically and have increased influence in the Soviet client nation.

Political alternatives such as alliances are never guaranteed in the long run. More importantly from the Soviet point of view they put the Soviet Union directly at risk.

It would be imprudent for the Soviets to agree to security arrangements in which its forces would be used to protect a nation when the Soviet Unions vital interests are not at stake. Proliferation of security agreements of this type could end up engulfing the Soviets in local conflicts throughout the globe. The USSR has taken great pains to avoid this risk in the past and would have to make a significant change in philosophy to alter their approach.

In summary, the Soviets must see FMS programs as the safest and most successful means of achieving their objectives. The only alternative, but not realistic, is to choose not to pursue the achievement of their objectives. Although theoretically possible it is folly to think that they would consider it. But, what if they did? What if they decided to ignore the political forces? What impact would that have on them as a nation economically?

#### International Forces--Economic

A nation in today's world could not prosper if it lived totally within its borders. Although the Soviet Union perhaps has greater potential due to deposits of natural resources it would find it difficult to grow and prosper in a vacuum. The Soviets have consumed the relatively accessible sources of raw materials and are finding it more and more difficult (expensive) to utilize those remaining.



Even its sources of gas and oil from Siberia are becoming more difficult to develop. It is to their benefit to trade on the world market in order to obtain resources at economical prices to foster its growth. Further, the world is a market for a nations' goods. International trade increases a nations' wealth through increased economic activity at home. It is to the Soviet's interest to trade abroad.

The Soviet Unions' alternatives to FMS income are few. There are little demands for Soviet consumer goods due to lack of availability but more for lack of quality. Soviet products lack style and quality and suffer from shortages of spare parts and poor after-sale service. (13:321) Some non-military industrial goods such as heavy-duty trucks and tractors are in demand, however, availability is low. The Soviets have a dilemma in that they would like to produce more for export but do not choose to allocate the increased resources to their production at the expense of the military sector. According to Berliner, even if they tried to, they would be unsuccessful since the non-military industrial sector cannot expand sufficiently. (5:109)

In the absence of replacement products, the Soviets would lose up to one fourth of their hard currency income now being brought by arms trade. (15:32) It would be unable

then to purchase the needed western technology, consumer goods, machinery and food and would suffer significant economic degradation. (13:319,320) Their FMS program is large because it is cheaper for them to sell "obsolete" military equipment than civilian industrial products. (5:21) Further the advantages of lower unit prices under economies of scale, longer production runs, and higher employment would be lost. (17:17) The FMS catalyst to the economy would be lost. For example the \$2.5 Billion secondary business stimulated by a \$1 Billion FMS arrangement would not take place. (18:13-14)

In summary then, on the international economic side, the Soviets could not afford the termination of or significant cut backs in their FMS program. They could not afford the loss of hard currency income. They are already in hard currency difficulty to the point that they may have to attempt borrowing heavily from Western banks. (13:320) Severe economic difficulties in their balance of trade and denied access to the world products would occur. But suppose the Soviet elite chose to make the internal adjustments to their economy to produce other products, non-military ones, for export? Could they orchestrate such a change? A closer look at the domestic forces on FMS is warranted.

### Domestic Forces--Political

The Soviet system is a bureaucracy and a characteristic of any bureaucracy is that inhibitions and protests will emanate from a section of the organization if it thought it might lose its relative position of importance. Loss of priority, manpower, funds, etc. produce a drop in the relative standing of one section's power relative to another. Historically those that are threatened resist the strongest and make the most protests. For this reason shifting priority to the non-military industries or consumer industries would meet significant amounts of bureaucratic resistance. The many individual decision makers in the military-industrial complex side of the centralized planning system, who have negotiated achievable annual plan targets, would also resist significant changes to the plan in a significantly downward direction. The military-industrial complex, being the largest, most "patriotic" and most successful, has had the prestige of being number one. These privileges, priority and access to "guaranteed" supplies would be lost or at least diminished. Some managers who have performed well, may question their abilities to cope with reduced budgets.

In addition to the large volume of pure bureaucratic and emotional resistance to significant reductions in FMS, there are domestic pressures that add to the political side

because they provide motivation to those resisting. It is incorrect to discuss these other pressures under a "political" heading yet incomplete to call them purely "economic" forces. They cross the boundary because many of the economic forces end up manifesting themselves ultimately in the political medium through arguments, dissatisfaction and discord. Despite this rational the remaining forces to be discussed will be labeled "economic."

#### Domestic Forces--Economic

Within this category, some of the most powerful forces reside. The other categories are more impersonal, but these are the forces that emanate from the individual citizens, the enterprise managers, essentially Soviet society as a whole.

The first force is the consumer's desire for a better life style, the desire for more personal property, the availability of articles of quality and quantity. There is a drive for these things but as it has been discussed in many sources, the manifestation of discontent is stifled by the Soviet system. The average Soviet citizen is not dissatisfied with his country's progress in the consumer sector. He does realize things could be better but openly resisting the patriotic rhetoric of the communist party is undesirable and not permitted. He may not be satisfied with

progress but at least he is not totally dissatisfied either.

The second, the resistance to innovate was dealt with extensively in Chapter III. It is appropriate here to discuss it again with an understanding that significant amounts of innovation would be required in order to shift away from a military-industrial complex altogether or even one with less emphasis on FMS.

The Soviet system has been geared to overproducing in the military sector for reasons already cited. There are two basic ways which an increase in the consumer-industries can be produced. The first is obtaining new resources and allocating them to the consumer-industries. This would be the most desirable process and also the easiest to implement since it is easy to innovate by adding on to a system. The resistance of management to change are gone since new management is building something new instead of rebuilding something old. (14:132) Unfortunately, the Soviet Union cannot simply create resources, either raw materials, funds, or labor. They have limited ability to expand.

The second way is to shift the allocation of current resources from the military sector to the non-military sector. In other words change the output of some enterprises from military equipment to non-military. Here is where the "inertia" in the author's opinion would be a significant road block. The centralized system and the

managers are going to be reluctant to undertake efforts to significantly change over factory equipment, obtain new sources of supply, retrain employees, and become inefficient in order to produce new products. The factory managers ability to achieve his primary goal of earning premiums will be severely jeopardized. The disruption, retraining and worker dislocation is a negative factor from the bottom up. Workers are torn between getting by and being efficient. Soviet managers are reluctant to dismiss labor because it is "not right" in a socialist society. In addition further inhibition is caused by a 1928 Soviet law that requires an enterprise manager to arrange for reemployment of workers if their dismissal is a result of a reduction in staff.

(6:159,161)

If an enterprise manager can successfully look past these difficulties, he is still faced with a built in bias against new products due to the effects of the official Soviet pricing system. The system sets prices on new products higher than it does for old. The prices on new equipment used in production are often higher than their increase in productivity warrants. Therefore, although new equipment should increase profits by increasing efficiency, it very often decreases profits because of increases in cost per unit output. (1:132)

The domestic economic pressures are significant.

The push for consumer-industry growth is there but it is opposed by lack of resources and the inhibitions for physically changing over military production into consumer production.

#### Summary

The international forces both political and economic composed of achieving its foreign relations objectives and obtaining needed trade and resources in a world economy are strong. FMS is a significant stimulant in boosting trade and earning hard currency needed by the Soviets to purchase Western technology, consumer goods and food. Loss of hard currency income to the extent provided by FMS would be intolerable to the Soviet Union. It would plunge them farther into the economic doldrums.

The domestic forces, both political and economic, argue for stability with priority on the military-industrial side with significant resistance to changing over to non-military industries. The military-industrial complex, for so long independent from the economic conditions in the Soviet Union, would have to undergo curtailment and reshaping. Portions of it would no longer have the prestige and priority it once had. The military bureaucracy within the Soviet bureaucracy and the individual managerial resistance

to change and innovation would provide significant roadblocks along a path to reduce FMS.



## CHAPTER V

### CONCLUSIONS

In an effort to synthesize the thoughts and facts presented in the earlier chapters, it might be most efficient to return to the original hypothesis and determine its merit. As you recall it was stated this way:

The Soviet economy is such that it produces a surplus of military equipment which it must sell on the international market. This characteristic will tend to continue independent of the desires of the Politburo and despite changes in the political environment.

These words essentially postulated that the Soviet FMS program could not undergo major reductions even if the Politburo desired it. The history of the Soviet FMS efforts, description of the economic system including incentives, and a discussion of forces on FMS have been delved into at one length or another.

The historical discussion indicated that, the FMS program, after a slow start due to internal priorities, has grown into one of the largest income producing industries in the Soviet Union. The nature of agreement terms and the countries it chooses to deal with show a great concern for

achieving its objectives while at the same time earning the much needed hard currency income. The Politburo cannot "turn it off" for two reasons. First because it would have limited means to achieve its foreign policy objectives and second, because it does not have suitable export substitutes to continue earning hard-currency income. Loss of international trade and income would severely impact their economy.

The Soviet economic system with its centralized planning, decentralized execution, and incentive system has proven satisfactory to a point, but now that it no longer has inexpensive surpluses resources, it must rely on intensive rather than extensive methods to continue growing. (25:59) The system established is not geared for that when human nature is factored in.

The political and economic forces on FMS and the military-industrial complex as a whole are strongly in favor of continued high volume production. The international forces argue for continued FMS in pursuit of Soviet foreign policy objectives while at the same time providing high levels of hard-currency income and trade. The domestic political and economic forces argue for bureaucratically maintaining the military priority and avoiding the economic risks of changing priorities.

In summary then the hypothesis has merit. The

Soviets cannot afford to significantly reduce its FMS programs for economic reasons even if it were not for the need to pursue its political objectives. The state of the current Soviet economy coupled with the inherent resistance to change and innovation, would inhibit the Politburo from taking such a step. Potential domestic upheaval would motivate continued high levels of military equipment production to minimize unemployment, maintain efficiency and above all to insure a manager's ability to receive the all important premiums.

This hypothesis relies on existing relationships within the world economy and within the Soviet economic system. Changes in either could cause changes in applicability. Incremental changes over time or large changes alike could make it unrealistic. Since large changes are unlikely, short of war, the incremental change approach is most realistic. Without a large change in the system, there will still be large excesses of military equipment available for a price. If the client country has the resources, they pay the price. If not, and if the Soviets feel the situation warrants, the arms will be made available at very reasonable prices. The Soviet FMS program cannot be categorized as inexpensive, but it is certainly "available." Their equipment is "cheap" because they need

it to be. They are competing in the arms business with practically their only desired product.

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